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The Perception Ante-Natal Attendants toward Prevention of Mother to Child Transmission (PMTCT) of HIV in Hosanna Town Government Health Facilities

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
ARV	Anti Retroviral
HAPCO	HIV/AIDS Prevention and Control Office
HEW	Health Extension Workers
HIV	Human Immunodeficiency Virus
MOH	Ministry of Health
MTCT	Mother to Child Transmission
NGO	Non-Governmental Organization
NVP	Nevirapine
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
WHO	World Health Organization

Abstract

Background: Mother to child transmission (MTCT) is responsible for the vast majority (90%) of new childhood HIV infections. Without intervention, HIV-infected mothers have a 35 percent overall risk of transmitting HIV to their child during pregnancy, delivery and breastfeeding. Since there is a very low uptake of the services of PMTCT of HIV despite the high probability of transmission in the country, it is deemed necessary to assess pregnant mothers' perception towards PMTCT of HIV to improve the uptake.

Objective: This study attempts to assess mothers' perception towards PMTCT of HIV in government health facilities in Hosanna town.

Methods: A cross sectional descriptive study was conducted to assess the perception of ANC attendants towards PMTCT of HIV in Hosanna town and systematic random sampling technique was used.

Results: 240(92.3%) of the mother knew that HIV can be transmitted from infected mother to her baby and 251(96.5%) knew at least one way of mode preventing MTCT of HIV. 118(43.5%) have low perception of their risk (susceptibility) to HIV infection but 85.4% of the respondents perceive well the seriousness of MTCT. 155(57.2%) of the respondents have high perception of the barriers of MTCT. Significant proportions of mothers (45.4%) have lower perception of the benefit of PMTCT of HIV and 145(53.5%) of the ANC attendants either not willing or couldn't decide to undertake VCT.

Conclusions: Most mothers knew that HIV could be transmitted from mother to child and that it can be prevented. The relatively low level of their perception on their susceptibility to HIV infection, low perception on the benefit and high perception on the barriers are associated with the relatively low level of readiness for VCT despite the high percentage of favorable attitude towards VCT and PMTCT.

Recommendations: Most of the ANC attendants had good knowledge of the MTCT and PMTCT and its seriousness to the baby but knows lesser on their susceptibility to HIV infection, its benefits and barriers to the PMTCT service. Creating the awareness on the benefits of PMTCT, the maternal susceptibility to HIV infection and addressing the barriers at the community level enhances the program uptake.

1. Introduction

1.1. Background

Mother-to-child transmission (MTCT) accounts for the vast majority of new HIV infections in children. Without intervention, HIV-infected mothers have a 35 percent overall risk of transmitting HIV to their child during pregnancy, delivery and breastfeeding (1). Prevention of mother–to-child HIV transmission (PMTCT) has been considered as important HIV prevention strategy worldwide. Effective prevention of mother-to-child transmission involves simultaneous support for several strategies that work synergistically to reduce the odds that an infant will become infected as a result of exposure to the mother's virus. Through the reduction in overall HIV among reproductive-age women and men, the reduction of unwanted pregnancies among HIV-positive women, the provision of antiretroviral drugs to reduce the chance of infection during pregnancy and delivery and appropriate treatment, care and support to mothers living with HIV (including infant feeding) programmes are able to reduce the chance that infants will become infected. In ideal conditions, the provision of antiretroviral prophylaxis and replacement feeding can reduce transmission from an estimated 30% to 35% with no intervention to around 1% to 2 %(2).

Generally the progress around PMTCT services remained very slow and the coverage has been extremely low. Percentage of HIV-positive pregnant women who receive antiretroviral medicines to reduce the risk of mother-to-child transmission is only 8% (3). Ethiopia has made some progresses in the provision of services to reduce HIV transmission from infected mother to newborns by increasing the proportion of women who get tested and know their results through expanding rapid testing to many PMTCT sites. However, the national ANC coverage is 66.3%, whereas coverage of skilled birth at a health institution is at 24.9%, which

both influence the utilization of PMTCT. A total of 1,023 health facilities were providing PMTCT services at the end of 2009. More than 616,763 pregnant women made at least one antenatal clinic visits during the last fiscal year, and 417,841 underwent HIV testing, of which 2.4% of the pregnant women tested positive. Of the total pregnant women diagnosed with HIV, only 63% received antiretroviral prophylaxis and only 5,025 infants received PMTCT prophylaxis in the same year (4).

Prevention of mother-to-child-transmission services began in 2003, but suffers from low utilization of antenatal care and delivery services. Only 0.8% of HIV infections among births to HIV positive mothers were averted in 2005/6 through PMTCT of HIV programs. The revised version of the Ethiopian PMTCT guideline issued in 2007 promotes integrated and "Opt-Out" approaches as the most appropriate strategies for expanding national access and sustainability of PMTCT of HIV services in the country. It also focuses on provision of HAART for all eligible HIV positive pregnant women and use of combined ARV prophylaxis for those who are not eligible for HAART. Compared to other approaches, routine provider-initiated HIV counseling and testing using the opt-out approach for all pregnant women has resulted in greater acceptability, increased opportunity to prevent MTCT, and minimized stigma(5).

The major gaps and challenges identified in the implementation of PMTCT of HIV in the country include: limited expansion of the service; inadequate use of PMTCT service even where it is available; poor early infant diagnosis, poor integration of PMTCT with ANC services; low ANC coverage, low percentage of deliveries attended by skilled health personnel; limited number of skilled and motivated human resources, poor community

component of PMTCT; weak community-health facility referral linkages; poor male partner involvement; perception and behavioral gaps which arises from knowledge gap in pregnant mothers and a weak M&E system. Therefore, looking in to alternative strategies to improve PMTCT services at different levels is critical to strengthen the national HIV/AIDS mitigation efforts (6).

This study was conducted to assess the perception of pregnant mothers towards PMTCT of HIV. The behavioral model called health belief model was originally developed in USA by social psychologists in the 1950s. The purpose was to systematically explain and predict preventive health behaviors with special focus on the relationship between health behaviors and practices and utilization of health services. The HBM was used in tuberculosis programs, cervical cancer screening, seatbelt use, and family planning programs. In its later development it included the reaction of people to disease symptoms, diagnosis and also adherence to treatment. It is believed that people will take action either to prevent, screen for, or to control ill-health conditions if they consider themselves as susceptible to the condition and believe that the condition would lead to potential serious consequences (severity) if they believe that a course of action available to them would be beneficial in reducing either susceptibility for the condition, and if they believe that the anticipated barrier to (or cost of) taking action are outweighed by its benefits(7). In this study the theoretical variables of the model which are perceived susceptibility, perceived severity, perceived benefit and perceived barrier were used.

1.2. Rational for the study

Prevention of mother-to-child-transmission services began in 2003 in the country but still it suffers from low utilization. Only 0.8% of HIV infections among births to HIV positive mothers were averted in 2005/6 through PMTCT programs. The revised version of the Ethiopian PMTCT guideline issued in 2007 promotes integrated and "Opt-Out" approaches as the most appropriate strategies for expanding national access and sustainability of PMTCT (HIV) services in the country.

Despite the availability of the service in most health facilities, trained health professionals at different caliber, the availability of the service in the country and the high probability of MTCT of HIV, PMTCT services uptake by pregnant mothers has been poor.

Moreover, the socio-demographic variables and factors with the proximal determinant factors including the knowledge on benefits, barriers, the services and involvement of the spouse have been studies mainly in urban settings and the situation in the rural settings and growing towns including Hosanna town where the majority of Ethiopian community lives and local and contextual factors are not well known.

The national epidemiological synthesis done in 2008 also indicated that growing rural towns do have increasing rate of HIV transmission (26), one of which is through mother to child and hence, the results of the study contribute to the attainment of the high utilization rate of PMTCT of HIV by pregnant mothers by addressing the factors that hamper the service uptake.

2. Literature Review

2.1. The situation of HIV and MTCT

The joint UNAIDS epidemic report indicates that about 33 million people were living with HIV/AIDS (PLWHAs) worldwide by the end of the year 2008. Of the PLWHAs, 67% are in the Sub-Saharan region. Among HIV positive children, more than 90% also come from the Sub Saharan region. Each year, close to 370,000 children are infected with the HIV virus from their mothers worldwide, with the majority in developing countries. Estimates show that 1.2% of the children 0-4 years are HIV positive and 90% of them have acquired the infection from their mothers. Among all the HIV positive babies, 65% are infected during labor and delivery (8).

The prevalence of HIV in Ethiopia is estimated at 2.3% among the reproductive age group of 15-49 years. Mother to Child transmission is the second most common mode of transmission of HIV in Ethiopia (9). Increasing numbers of children have HIV infection, especially in the countries hardest hit by the pandemic. Globally the number of children younger than 15 years living with HIV increased from 1.6 million in 2001 to 2.0 million in 2007.Almost 90% live in sub-Saharan Africa (10).

The HIV virus may be transmitted during pregnancy, labor and delivery, or by breastfeeding. HIV/AIDS transmitted through mother to child has been estimated to account for about 8% of deaths in children fewer than five years of age in sub-Saharan Africa. In the sub-Saharan Africa and other regions with high HIV prevalence, about one in three children born to mothers with HIV become infected by contrast; mother to child transmission of HIV in developed countries has been reduced to less than 5% through antenatal HIV testing and antiretroviral therapy (10).

Every year in Ethiopia nearly 14,000 children are born that are infected with the HIV virus. A large part of these infections can be prevented. Almost all of these infections could be prevented and mortality markedly reduced by the delivery of a comprehensive package of prevention and care interventions. The current coverage and uptake of services to prevent the transmission of HIV infection in most resource limited settings, including those with a high burden of HIV infection, is still too low to have a meaningful impact on the epidemic among children." (11).

A study done on barriers to PMTCT uptake done in South Africa showed adequate awareness and appreciation of the benefits of VCT by both providers and the community. Providers' and the community's views were similar. However, a few gaps in the knowledge of the community members were exhibited about the perceived disadvantages of VCT. A number of varied and complex factors were identified as barriers to the acceptance and uptake of VCT. The study concluded that a vigorous and innovative information, education and communication (IEC) drive with accurate, consistent and culturally appropriate messages is required to reduce the community-related barriers to uptake of VCT, in addition to couple counseling. These will positively impact on the uptake of VCT during the scaling-up of PMTCT and increase its cost-effectiveness (12)

Levels of AIDS related knowledge are assumed to be high in Thailand, in country with probably most effective response to the HIV / AIDS pandemic to date the developing world. Over 90% of each age and sex group answer correctly about the major conduits of HIV transmission in Thailand (unprotected sexual relations with an infected person and sharing needles for LV drug use). Proportions answering correctly questions pertaining to

transmission related to blood transfusion- and perinatal routes including breast-feeding were also very high for all age and sex categories (*13*).

In a study done in Rome, Italy HIV infected mothers were asked about the risk of transmission of HIV to their baby, 13.8% of them thought that it is transmitted 100%; 44.1 % of them thought the chance of transmission is 50-80% and 10-50% of them thought that the risk is, 5%; and in this particular study it was concluded that it is important to provide appropriate counseling about prenatal HIV transmission to all child bearing age (*14*).

In one study done in Ethiopia, Addis Ababa Town about mothers in immediate post natal period in Zewditu and Tikur Anbessa Referral Hospitals on knowledge, attitude and practices on MTCT,70.4% knows that HIV can be transmitted from infected mother to her baby but 5% of them said it is below 25% and significant percentage(29.6%) said they don't know.99.4% of the mothers mentioned at least one period of transmission ,while 55.4% of mothers mentioned all periods of transmission from pregnant mother to child. Most mothers (76.8%) know that MTCT is preventable and 64.6% knows about the protective effect of ART (4).

Another study conducted in the rural setting in Ethiopia, Arba Minch Town about awareness of Antenatal care attendants on PMTCT, 80% of all mothers are aware of the perinatal transmission of HIV infection and of these 55% thought that there is a 100% risk of transmission of every conception. Out of all the mothers interviewed, 91% agreed that HIV is not transmitted by mother-to-child physical contact, and 86.5% have the knowledge that HIV is transmitted through breastfeeding. The use of ARV drugs in PMTCT was not known to

80% of the mothers. Even though 92.3% of the mothers did not know their HIV serostatus, 74.4% of all the pregnant mothers volunteered for HIV blood test at the first request (11).

According to the national baseline survey conducted on pregnant mothers to assess their knowledge at the start of the PMTCT program in 2004 in Ethiopia, there are different levels of awareness and knowledge. The majority of the women were able to identify at least one mode of HIV transmission, however less than a third mentioned MTCT as a possible mode. Knowledge around PMTCT was quite low, particularly with respect to modes of transmission and prevention of MTCT during pregnancy. Less than a fifth of women identified all three modes of transmission and almost a quarter of the women did not know any mode of transmission. Knowledge of prevention of MTCT during pregnancy and breastfeeding is low**.** Knowledge of appropriate infant feeding options shows higher knowledge about replacement feeding as the best way to prevent HIV transmission during the breastfeeding period of infancy. Both knowledge of the availability of VCT and VCT uptake among pregnant women is low. Nineteen percent of women said it was possible to get VCT in their kebele, and 18% of women reported having been tested. This is also the same percentage of women who reported receiving counseling on VCT/PMTCT during their ANC visit. Among those tested for HIV, the majority consulted somebody prior to taking the test, usually a health worker or their spouse. Only 13% of women correctly identified the three ways that HIV can be transmitted from mother to child: during pregnancy, delivery and through breastfeeding; 29% were able to correctly identify two modes of MTCT and 34%) were able to identify one (*2*).

2.2. PMTCT Services and their availability

Ethiopia has adopted the WHO/UNICEF/UNAIDS 4-pronged PMTCT strategy as a key entry point to HIV care for women, men and families (8). Technical interventions, including antiretroviral medications, essential obstetric care, health system management and resource allocation, and gender bias are part of the national comprehensive PMTCT program. Addressing all four prongs has potential to interrupt the cycle that leads to MTCT at several points:

1. Primary Prevention of HIV infection
2. Prevention of unintended pregnancy among HIV positive women
3. Prevention of HIV transmission from infected women to their infants.
4. Treatment, care and support of HIV infected women ,their infants and families

The PMTCT services are made available in government owned health facilities at the hospital and health center level.

2.3. Factors affecting the acceptance of HIV test and PMTCT services uptake

There are several studies done to look into the factors, both proximal and distal, affecting the low utilization of PMTCT services by pregnant mothers. A study done in Kenya showed that HIV related stigma and fear of disclosure hinders health-seeking behaviors of pregnant mothers. The lack of training in male and couples counseling was also identified as a major

gap in the study. Cultural expectations related to home delivery and lack of overnight staff inhibit maternity service uptake. Economic factors and perception that the ANC added 'no extra value' were also found as factors for the low uptake (23).

Another study done in Kenya showed also that inadequate counseling services delivered to clients ,long waiting times, short post-test counseling duration, lack of disclosure of positive HIV status, and lack of follow-up counseling for HIV-positive clients were found to affect service utilization(24).

The perceptions of pregnant mothers, who are the targets for the services, towards PMTCT is not well researched, especially in the rural contexts. Hence, from the above researches, surveys and studies it can be seen that there is still a need to further look into the maternal perception towards the PMTCT of HIV that affect the mothers from using the PMTCT services available in the health facilities.

3. Objectives

3.1. General Objectives: To assess the perception of pregnant mothers towards Prevention of Mother to Child Transmission of HIV service.

3.2. Specific Objectives

1. To assess the perception of ANC attendants towards Prevention of Mother to Child Transmission (PMTCT) of HIV.
2. To recommend workable approaches and strategies to increase the Prevention of Mother to Child Transmission (PMTCT) services uptake.

4. Methodology

4.1. Study Setting

The study is conducted from February 1, 2011 to April 30, 2011 in Hossana Town, Hadiya Zone, SNNPR, which is located 230 km away from Addis Ababa, Ethiopia. Hosanna is the capital of Hadiya Zone and is located 230Km South of Addis Ababa. The total population of the town is estimated to be 78,432. The town is selected because of its logistical advantages and the existing well established ANC clinics and PMTCT program. Moreover, the town is one of the growing towns in the region with relatively high prevalence of HIV in the region according to the recent reports.

4.2. Study Design:

Cross sectional descriptive study design is used for the study. The study subjects, pregnant women attending the ANC, were recruited using the Systematic Random Sampling (SRS) Techniques.

4.3. Study Population:

All pregnant mothers attending the ANC were the source of the study population. Pregnant mothers who attended the ANC were recruited for the study using Systematic Random Sampling (SRS).

4.4. Sample size:

The sample size was calculated with the following formula (a formula for single proportion),

$$n = \frac{Z^2 \times \mathbf{p(1-p)}}{\mathbf{d^2}}$$

Where:

n=sample size of the study population

Z = Z value (1.96 with 95% confidence level)

p = Proportion of mothers with knowledge about MTCT

d = confidence limit

From a study done in similar setting, Arba Minch town (11), the proportion of Mothers with the knowledge about MTCT is 80%.

Taking the absolute precision, d, of 0.05, the sample calculated was 246.With a 10% for missing values, the sample size adjusted was 271.

4.5. Sampling Procedure

The pregnant mothers attending the ANC were obtained from the clinics and interviewed using the semi-structures interview guide. There were questionnaires structured to the enrolled attendee, identifying the mothers by their age, marital status, occupation and address of residence.

Pregnant mothers coming for the ANC were selected randomly using systematic random sampling technique and they were interviewed until the calculated sample size was reached in both health facilities.

Using the formula for calculating the interval (N/n where N is the population and n is the sample size), every 15^{th} mother is interviewed until the calculated sample size is reached.

4.6. Data Collection procedure

The questionnaire prepared initially in English was translated into Amharic and was pre-tested in Yeka Sub city Kotebe Health Center. Variables selection was pre-informed by previous similar studies made in country and outside. Socio-demographic variables, the number of pregnancy, the frequency of ANC visits knowledge of mothers on MTCT and

PMTCT of HIV, perceived susceptibility, severity, benefits and barriers of PMTCT, attitude and practice variables were used for the study.

Three (3) nurses working in the ANC were trained and used for the data collection and were supervised and followed by one trained supervisor.

Based on the proportion of mothers attending in both ANC clinics (in the Hospital and health center), the total number was divided among the two clinics. In fact there were similar number of ANC attendants in the hospital and health center and equal share was given to both.

Identification of clients and consent form filling were made by the trained nurses in the study. All mothers were requested to give their consents before the interview.

Measurement of variables

The independent variables of the study were maternal age, educational status, household income, marital status, occupation, religion, parity and ethnicity.

Dependent variables were mothers' knowledge of HIV, its modes of transmission, mothers' knowledge of MTCT of HIV & PMTCT of HIV, their perception on their susceptibility, perceived benefit, seriousness and barriers, mother's knowledge of VCT and attitude towards VCT.

The measurement of the dependent variables is based on the operational definition used for the study.

Data Compilation and analysis

The data entry was made by the researcher himself to the data collected from the health facilities after checking its completeness into computer using SPSS 15 statistical data analysis software after the data were checked for cleanness. Finally, the results were

interpreted and discussed in line with the available literature & study objectives and conclusion and recommendations were made on the findings.

Operational Definitions

The following definitions were use for the analysis and interpretation.

Mother to Child transmission of HIV (MTCT): The transmission of HIV from infected mother to her baby in utero, during labor, delivery or post natal via breastfeeding.

Perception about MTCT: Responses are aggregated and the mean scores are calculated for independent variables of perceived susceptibility (risk), perceived severity, perceived benefit, and perceived barrier.

Perceived susceptibility*:* Responses to items related to susceptibility of the respondents to MTCT were aggregated and the mean score was calculated. Those who scored below the mean value were categorized as having low perception of personal susceptibility (risk) of getting HIV/AIDS and the transmitting to the baby in utero.

Perceived benefit*:* Items were included to measure perceived benefits of PMTCT and the mean score for perceived benefits were calculated. Those respondents who scored below the mean score were categorized as having low perception of the benefits of PMTCT.

Perceived barriers: Items were included to measure perceived barriers of undergoing PMTCT in terms of cost and inconvenience (or feeling of embarrassment) and the mean score for perceived barriers was calculated. Those respondents who scored above the mean score were categorized as having high perception of barriers.

4.10. Ethical considerations:

Ethical clearance was obtained from Addis Continental School of Public Health and Gondar University. Permission to undertake the study was secured from the SNNPR Regional Health

Bureau and subsequently Zonal and district level Health offices were contacted. The health center and hospital administration were contacted for the study before going directly to the ANCs.

Pregnant mothers attending the ANC were asked for their consent if they would like to participate in the interview. They were informed that confidentiality would be kept by avoiding their names on the questionnaire. Those who agreed to be interviewed participated in the study.

5. Results

5.1. Socio-demographic Characteristics

A total of 271 mothers were interviewed in the study. 259(95.4%) were from Hosanna town and the rest were from different surrounding places. The mean age of ANC attendants was 24.69(SD $\pm$ 4.71).Of these mothers 105(38.8%) were multi-para & 94(34.6%) were primipara, 265(97.7%) were married, and 241(88.8%) were Christians. Hadiya is the major ethnic group 179(66%) followed by Amhara 45(16.5%). 116(42.9%).of the mothers had secondary education and 86(31.2%) of the mothers had post secondary level education. Most of them (60.8%) were housewives and 28.1% were government employee. 118(43.5%) of them earn a monthly income of more than 1000 ETB and 92(33.8%) of them earn between 500-1000 ETB per month. For the detail of the socio-demographic characteristics see table 1 below:

Table 1: Socio-demographic characteristics of mothers (n=271), Hosanna, February-April, 2011

Variable		**Frequency**	**Percent**
1. Place of residence of Mothers	Hosanna	258	95.4
	Outside Hosanna	13	4.6
2.Age of Mothers	16-20	59	21.9
	21-25	91	33.5
	26-30	91	33.5
	31-35	30	11.2
3.Marital Status	Married	265	97.7
	Single	2	0.7
	Divorced	2	0.7
	Widowed	2	0.7
4.Religion	Christian	241	88.8
	Muslim	27	10
	Others	3	1.2
5.Ethnicity	Amhara	45	16.5
	Oromo	15	5.4
	Gurage	27	10
	Hadiya	179	66
	Others*	5	2
6.Educational Status	No formal Education	17	6.2

	Primary Education(Grade1-6)	56	20.8
	Secondary Education(Grade7-12)	113	41.9
	Post Secondary(12+)	85	31.2
7.Occupation	Housewife	165	60.8
	Private	15	5.4
	Government employed	76	28.1
	Merchant	8	3.1
	Others**	7	2.7
8.Household Income	<250 ETB per month	20	7.3
	250-500 ETB per month	42	15.4
	500-100 ETB per month	92	33.8
	>1000 ETB per month	117	43.5
9.Parity	Grand Para(>5)	73	26.8
	Multipara(2-5)	104	38.8
	Primipara	94	34.6

*Other ethnic groups: Silte(1%), Kembata(1%),**Other occupation: Housemaid (1),,Student (1)

5.2. Information Regarding HIV and AIDS

99.2% (269) of the respondents have reported to have heard about the disease HIV and AIDS

Regarding the routes of transmission 229(84.6%) of the mothers know more than two routes of transmission and 57 (21.1%) mentioned only one route. Only 0.8% didn't know any of the routes of transmission (Table 2)

Table 2: Distribution of mothers with respect to their knowledge of different routes of transmission of HIV (n=271), February-April, 2011

Knowledge of ANC attendants on routes of HIV transmission	**Frequency**	**Percent**	**Cumulative Percent**
Multiple sexual partnership	19	6.9	6.9
Sharing needles and sharp objects	20	7.3	14.2
Sexual intercourse, sharing needles and sharp objects, blood transfusion, during pregnancy and delivery and breast milk	44	16.2	30.4
Sexual intercourse, sharing needles and sharp objects, blood transfusion,	14	5.0	35.4
Sexual intercourse, sharing needles and sharp objects, blood transfusion, and breast milk	10	3.8	39.2

Sexual intercourse, sharing needles and sharp objects	123	45.4	84.6
Sexual intercourse, sharing needles and sharp objects, during pregnancy and delivery and breast milk	20	7.3	91.9
Sexual intercourse, during pregnancy and delivery and breast milk	9	3.5	95.4
Sexual intercourse, sharing needles and sharp objects, blood transfusion, during pregnancy and delivery	6	2.3	97.7
Sharing needles and sharp objects and breast milk	4	1.5	99.2
I don't know	2	.8	100.0
Those who know only one mode of transmission	**19**	**6.9**	
Those who know two or more modes of transmission	**250**	**92.3**	
Those who knows at least one(comprehensive)	**258**	**99.2**	
Total	**269**	**100.0**	

Using the chi square test for the knowledge of mothers on HIV versus their socioeconomic and demographic factors, age of the mothers(p value of 0.06) and the educational status of mothers(p value of 0.000) has significant association with the level of knowledge of the mothers on HIV.

5.3. Knowledge on MTCT of HIV

According to Table 3, 240(92.3%) of the mother have heard that HIV can be transmitted from infected mother to her baby., pregnant mothers between the ages of twenty to thirty seems more knowledgeable about MTCT of HIV than others and the relationship isn't statistically significant for this age group.

Educational status of mothers has statistically significant association with their awareness (P value 0f 0.000), in that those who were secondary levels and above were found to be more aware than those who have no formal education. Those mothers working in private business

(p value of 0.011), and those with monthly household income greater than 1000 ETB (p value of 0.04) have statistically significant relationship with the level of their awareness on MTCT.

Table 3: Awareness of mothers about MTCT of HIV vs. Socio-demographic variables (n=271), February-April, 2011

Socio-demographic variable		**Know MTCT of HIV(Have heard about MTCT)**		
		Yes	**No**	**OR(95% CI)**
1. Place of residence of Mothers	Hosanna	239	20	1
	Outside Hosanna	10	2	2.4(0.49-11.8),p=0.27
2.Age of Mothers	16-20	55	5	1
	21-25	84	5	0.66(0.18, 2.40),p=0.53
	26-30	84	7	0.43(0.07, 2.40),p=0.34
	31-35	28	3	0.55(0.08, 3.83),p=0.55
3.Marital Status	Married	244	21	1
	Single	2	0	2.28(0.10 , 49.27),p=0.59
	Divorced	2	0	2.28(0.10 , 49.27),p=0.59
	Widowed	2	0	2.28(0.10 , 49.27),p=0.59
4.Religion	Christian	218	22	1
	Muslim	28	0	0.17(0.01,3.00),p=0.23
	Others	3	0	1.39(0.06, 27.85),p=0.82
5.Ethnicity	Amhara	42	4	1
	Oromo	15	0	0.31(0.015,6.12),p=0.44
	Gurage	27	0	0.16(0.01,3.28),p=0.24
	Hadiya	165	18	1.07(0.34,3.35),p=0.91
6.Educational Status	No formal Education	9	8	1
	Primary Education (Grade1-6)	44	11	0.29(0.09,0.94),p=0.04)
	Secondary Education (Grade7-12)	112	2	0.02(0.00,0.11),P < 0.0001
	Post Secondary(12+)	84	0	0.0069(0.0004 to 0.1284),p=0 .0009
7.Occupation	Housewife	144	21	1
	Government employed	15	0	0.23(0.01,4.05),p=0.32
	Private	76	0	0.05(0.003,0.77),p=0.03
	Merchant	8	0	0.3974(0.02,7.15),p=0.53
	Others**	5	2	2.76(0.50,15.19),p=0.24
8.Household Income	<250 ETB per month	16	4	1
	250-500 ETB per month	40	2	0.19(0.033,1.19),p=0.08
	500-100 ETB per month	79	13	0.59(0.17,2.09),p=0.41
	>1000 ETB per month	111	6	0.21(0.05,0.83),p=0.03
9.Parity	Grand Para(>5)	65	10	1
	Multipara(2-5)	99	5	0.32(0.10,0.97),p=0.04
	Primipara	85	7	0.53(0.19 to 1.49),p=0.23

Table 4 indicates that 86.1% of the respondents knew at least two periods of HIV transmission from mother to child.56.5% of the ANC attendees responded that HIV could be transmitted during pregnancy, labor and breast feeding.

Table 4- Frequency distribution of responses on the period of HIV transmission by the ANC attendants (n=271), February-April, 2011

Period of HIV transmission	Frequency	Percent	Cumulative Percent
During pregnancy	12	4.6	7.3
During labor	2	0.8	8.9
During breast feeding	23	8.5	15.0
During pregnancy, labor and breast feeding	154	56.5	65.2
During pregnancy and labor	29	10.8	78.5
During pregnancy and breast feeding	27	10.0	90.7
During labor and breast feeding	24	8.8	100.0
Total	260	100.0	

Only 13.9% of then knew only one period of HIV transmission from infected mother to her baby and the rest 31.4% knew two periods of transmission.

The chi square test shows there is statistically significant relationship between the timing of transmission with the educational level, household income, occupation and age of the mothers all at p value of 0.000.

5.4. Knowledge on PMTCT

According to Table 5, 251(96.5%) knew at least one way of mode preventing MTCT of HIV. 55.8% of the ANC attendants knew two or more ways of preventing MTCT whereas 40.9%

of the ANC attendants knew only one way of preventing MTCT. Preventing the mother from HIV infection was known to 21.2% of the ANC attendants from those who know single method prevention.

Table 5 – Distribution of ANC attendants knowledge about the preventive methods of MTCT of HIV (n=271), February-April, 2011

Prevention Methods of MTCT of HIV	**Frequency**	**Percent**	**Cumulative Percent**
I don't know	9	3.5	3.5
Preventing the mother from HIV infection	58	21.2	24.6
Giving ART during pregnancy	43	15.8	40.4
Delivery through surgical operation	8	3.1	43.5
Avoiding breast feeding	2	.8	44.2
Preventing mothers from infection, ART during pregnancy, CS delivery, avoid breast feeding	4	1.5	45.0
Preventing mothers from infection, ART during pregnancy,CS delivery	2	0.8	46.5
Preventing mothers from infection, ART during pregnancy, avoid breast feeding	29	10.8	57.3
Preventing mothers from infection, CS delivery, avoid breast feeding	2	.8	58.1
ART during pregnancy,CS delivery & avoid breast feeding	5	1.9	60
CS delivery & avoid breast feeding	2	0.8	60.8
ART during pregnancy,& avoid breast feeding	14	5.0	65.8
ART during pregnancy & CS delivery	6	2.3	68.1
Preventing mothers from infection & ART during pregnancy	60	21.9	90.0
Preventing mothers from infection & avoid breast feeding	27	10.0	100.0
Those who know only one prevention strategy	**106**	**40.7**	
Those who know two or more prevention strategy	**145**	**55.8**	
Those who know at least one prevention strategy	**251**	**96.5**	
Total	271	100.0	

5.5. Perceived susceptibility of ANC attendants to HIV infection, Perceived Seriousness of MTCT, Perceived Benefits of PMTCT and Perceived Barriers to PMTCT of HIV services utilization.

As can be seen from Table 6, ANC attendees with the age range of 16 to 25 had the perception of highest of risk of HIV infection (28%).Similarly, those with educational level of secondary school and above had the perception of highest risk of HIV infection.

Table 6: Socio-demographic variables Vs. Mothers Perceived Susceptibility o HIV infection (n=271), February-April, 2011

Socio-demographic Variables		**Perceived Susceptibility of the ANC attendant o HIV infection**			
		High Susceptibility	**Moderate Susceptibility**	**Low Susceptibility**	**No Susceptibility**
Place of residence of ANC attendants	Hosanna	104	50	25	80
	Outside Hosanna	4	0	0	8
		108	50	25	88
Age of the ANC attendants	16-20	38	7	0	15
	21-25	36	15	4	35
	26-30	29	20	10	31
	31-35	6	8	6	9
		109			
Marital Status of attendants	Married	103	47	19	85
	Single	1	1	0	0
	Divorced	1	0	0	1
	Widow	0	0	1	0
		105	48	20	87
Religion of ANC attendants	Christian	99	42	16	74
	Muslim	6	6	3	11
	Others	0	0	1	2
		105	48	23	87
Ethnicity of ANC attendants	Amhara	7	13	5	18
	Oromo	4	6	3	1
	Gurage	10	5	2	9
	Others	84	26	12	64
		105	48	20	87
Educational status of ANC attendants	No formal education	6	2	0	9

	Primary(Grade 1-6)	22	7	1	24
	Secondary(Grade 7-12)	54	9	11	35
	Post secondary(12+)	23	30	8	20
		105	48	20	87
Monthly income of household	<250 ETB per month	11	6	0	2
	250-500 ETB per month	9	7	3	21
	500-1000 ETB per month	42	7	6	33
	>1000 ETB per month	43	28	11	31
		105	48	20	87
Parity of ANC attendants	Grand multipara(>5)	19	14	4	35
	Multipara(2-5)	40	25	13	28
	Primipara	51	11	4	27
		110	50	21	90

After categorizing those who had susceptibility (high and moderate as “yes” and low& no susceptibility as “No”), 118(43.5%) have low perception of their risk (susceptibility) to HIV infection. The chi square value was calculated to the association and as a result age (p value of 0.03), occupation (p value of 0.039), monthly income (p value of 0.002) and parity(p value of 0.018) showed statistically significant association with susceptibility. Parity seems to have the largest impact (logistic regression score of 7.2) followed by age (score of 7) and religion (score of 5).

Majority of the ANC attendees strongly disagree (39%) or disagree (36%) that there is small chance of MTCT of HIV. Similarly, 75.3% of the mothers agree MTCT is serious and 94% aren’t more susceptible that those who deliver at home (Table 7).

Table 7: Responses of ANC attendants on the perceived seriousness of MTCT of HIV (n=271), February-April, 2011

Perceived seriousness of ANC attendees	**Respondents' Perceptions About PMTCT**				
	Strongly disagree	**Disagree**	**Neutral/ Not sure**	**Agree**	**Strongly Agree**
Small chance of transmitting HIV to baby in pregnancy	94	105	10	49	13
MTCT is a serious and threatening issue to the baby	13	26	7	202	23
You aren't more susceptible than a those who deliver at home	6	15	8	166	76

The questions on perceived seriousness are computed into a new variable called seriousness and the responses are categorized into two: "Yes" and "No". The mean score was calculated for the responses (1.6821$\pm$ 0.0248).85.4% of the respondents scored above the mean score, i.e., they have higher perception of the seriousness of MTCT.With chi square test, occupation (p value of 0.033), monthly income (p value 0.022), and parity (p value 0f 0.033).

Table 8: Responses of ANC attendants on the perceived barriers of PMTCT of HIV (n=271), February-April, 2011

Perceived barriers of PMTCT	**Respondents' Perceptions on barriers**				
	Strongly disagree	**Disagree**	**Neutral/ Not sure**	**Agree**	**Strongly Agree**
PMTCT service is expensive ,inaccessible and unknown	24	66	27	134	20
Husbands have negative influence on the uptake of PMTCT	26	90	41	102	12

As can be seen from the above table 8, 57% of the respondents (strongly) agree that PMTCT service is expensive, inaccessible and unknown and equal number to that of those (strongly)

agree (43%) (Strongly) disagree that husbands do have a negative role in PMTCT.

The questions on perceived barrier are computed into a new variable called barrier and the responses are categorized into two: “Yes” and “No”. The mean score was calculated for the responses (1.28821± 0.247). 57.2% of the respondents scored above the mean score, i.e., they have higher perception on the barriers of MTCT.With chi square test education (p value of 0.026) has statistically significant association with the perceived barrier to PMTCT service utilization.

Table 9: Responses of ANC attendants on the perceived benefits of PMTCT of HIV (n=271) February-April, 2011

Perceived benefits of ANC attendees on PMTCT	**Respondents’ Perceptions About PMTCT**				
	Strongly disagree	**Disagree**	**Neutral/ Not sure**	**Agree**	**Strongly Agree**
Know someone whose baby is prevented by PMTCT service	2	70	89	64	39
I heard about the benefit of PMTCT before I came here	2	10	100	132	27
It is beneficial to have PMTCT services to prevent Mother to Child Transmission of HIV in ANC to the baby	2	9	115	85	60

The questions on perceived benefit are computed into a new variable called benefit and the responses are categorized into two: “Yes” and “No”. The mean score was calculated for the responses (1.509± 0.368). 148(54.6%) of the respondents scored above the mean score, i.e., they have higher perception of the benefit of PMTCT service and 123(45.4%) scored below the mean score, which means they have lower perception of the benefit of PMTCT of HIV.

With chi square test, occupation (p value of 0.000), parity (p value 0f 0.032) and with Exact fisher test educational status (p value of 0.017) have statistically significant association with the perception of the benefits of PMTCT of HIV services.

5.6. Knowledge and attitude towards VCT

258(95.2%) are aware of the presence of VCT. When looking at the relationship of socio-demographic variables with the knowledge of ANC attendants on VCT, those in the age group of 21-30 knew better than others with a statistical significance. Here again ANC attendants whose educational levels were secondary and above had better knowledge of VCT. Housewives were also found to know better than others followed by government employee. Mothers who had children five and above had less knowledge than the others.

Table 10: Awareness of ANC attendants about VCT vs. Socio-demographic variables (n=260), February-April, 2011

Socio-demographic Variables		**Are you aware of VCT?**		
		Yes	**No**	**OR(95%CI)**
Place of residence of ANC attendants	Hosanna	245	14	1
	Outside Hosanna	12	0	0.057
Age of the ANC attendants	16-20	58	2	1
	21-25	85	5	0.58(0.11-3.12)
	26-30	83	7	0.40(0.08-2.00)
	31-35	30	0	0.03(0.001-0.4410
Marital Status of attendants	Married	251	14	1
	Single	2	0	0.058
	Divorced	2	0	0.088
	Widow	2	0	
Educational status of ANC attendants	No formal education	14	4	1
	Primary(Grade 1-6)	51	6	2.4(.60-.9.8)
	Secondary(Grade 7-12)	110	4	7.8(1.7-23)
	Post secondary(12+)	79	3	7.2(1.5-37)
Occupation of ANC attendants	House wife	156	9	1

	Private	13	2	0.37(0.07-1.92)
	Government employee	76	0	
	Merchant	7	1	0.40(0.04-3.64)
	Others	6	1	
Monthly income of household	<250 ETB per month	20	0	1
	250-500 ETB per month	40	2	
	500-1000 ETB per month	85	6	
	>1000 ETB per month	113	5	
Parity of ANC attendants	Grand multipara(>5)	68	4	1
	Multipara(2-5)	101	4	1.48(0.35-6.18)
	Primipara	89	5	1.04(0.21-4.04)

There is a statistically significant relationship between the level of education of ANC attendants and their level of awareness of VCT (p values of 0.014). When age is categorized above and below the mean age, there is statistically significant association with the level of knowledge of VCT (P value of 0.006).

.Table 11 shows that, 86.2% of the ANC attendee agreed that every pregnant mother shall take VCT for PMTCT. Only 0.8 agreed that pregnant mothers shalln't undertake VCT. As can be seen from table 15, ANC attendees in the age group of 21-30(57%), had the attitude that every mother should take VCT for PMTCT.

Table 11: Frequency distribution of the ANC attendants opinion about VCT (n=271), February-April, 2011

ANC attendees' Opinion about VCT	**Frequency**	**Percent**	**Cumulative Percent**
Every pregnant mother shall take VCT for PMTCT	234	86	86
Pregnant mother shall take VCT for PMTCT if she suspends HIV infection	24	9.2	95.2
Testing doesn't change the transmission to the baby	1	.4	95.6
Pregnant mothers shalln't undertake VCT	2	.7	96.3
I can't answer now	10	3.7	100.0
Total	271	100.0	

Table 12 indicates that only less than half of the mothers (46.5%) were ready for VCT. 145(53.5%) of the ANC attendants either not willing or couldn't decide to undertake VCT at the time of the interview.

Table 12: Frequency distribution of the ANC attendants willingness for VCT (n=271), February-April, 2011

Are willing for VCT?	Frequency	Percent	Cumulative Percent
Yes	126	46.5	46.5
No	46	17.0	63.5
I can't decide now	99	36.5	100.0
Total	271	100.0	

7. Discussion

In this study, 99.2% of the mothers heard about the HIV and AIDS and this is consistent with the findings of the study conducted in similar setting in Arba Minch and Addis Ababa town but there is a slight difference on the major routes of HIV transmission since only 84.6% of the ANC attendees knew at least two major routes of transmission unlike the study done in Addis Ababa which shows 94.5%(4, 11).

Two hundred forty (92.3%) of the mother knew that HIV can be transmitted from infected mother to her baby. This finding is also consistent with the findings of the study done in the same setting in Addis Ababa(4) and Arba Minch(11) Town and also in similar countries including Kenya(20).In the study done in Addis Ababa,Tikur Anbessa and Zewditu hospitals transmissions related to blood transfusion and perinatal routes including breast feeding were also very high for all ages alike the study conducted in Hosanna town(4).

Previous studies done in Tigray Town (1992), Ethiopia the awareness of the existence of HIV and AIDS was found to be 98.3%among 60 patients diagnosed with STD but only 8.3% know vertical transmission of HIV (4).A study also done in Bahir Dar town in 1994 showed that 95.4% of out of school youth heard about HIV from different sources but only 21.7% knew about MTCT(24). Therefore it can be clearly seen that the awareness of vertical transmission of HIV from infected mother to her baby is increasing in the past two decades.

243(93.5%) of the ANC attendants gave the possible percentage of MTCT of HIV that they thought is correct. Of this,104(40%) of the respondents said that the chance of transmission is between 10-50% and the other 26% responded that it is 100%.Only 19.2% of them said it is 0%.These finding are closer to the study done in Addis Ababa(4) and Rome, Italy (17).

144(55.6%) of the ANC attendees knew at least two ways of preventing MTCT in this study

whereas 40.9% of the ANC attendants know only one way of preventing MTCT. Preventing the mother from HIV infection is known to 21.2% of the ANC attendants from those who know single method prevention.

This result is less than the results found in the study done in Addis Ababa where the 76.% of the mothers knew that MTCT is preventable by protecting the mother from HIV, abstinence of breast feeding, cesarean section delivery and by giving prophylactic anti-retroviral drugs, 45% of them reported one method of prevention,&19.7% mentioned two methods(4).

In this study, 28.8% of the ANC attendees responded that prolonged labor and preterm delivery are the major risk factors for the high transmission of the virus from infected mother to her baby.33.6% of the respondents don't know a single risk factor. Those who knew more than one risk factor are 40%.This is lower than similar study done in done in Addis Ababa,Tikur Anbessa and Zewditu referal Hospitals, in which majority of the mothers knew prolonged labor, preterm labor, maternal infection during pregnancy or breast feeding and advanced disease during pregnancy(4). The level of education, the household income and occupation of the mothers are significantly associated with the maternal knowledge of HIV,MTCT and PMTCT. The level of education is also found to be the factor in previous studies in Addis Ababa and Arba Minch.

118(43.5%) of the ANC attendants have score below the mean, which is lower perception of the risk of HIV infection. Maternal age, occupation, household income, eduction and parity showed significant association with the susceptibility of the mothers to HIV infection.

231(85.4%) of the respondents scored above the mean score (1.6821± 0.0248), i.e., they have higher perception of the seriousness of MTCT. The kinds of occupation, monthly income, the level of education and parity have significant association. 57% of the respondents agree that PMTCT service is expensive, inaccessible and unknown and the majority of them (43%) agree that husbands do have a negative role in PMTCT. On the aggregate, 155(57.2%) of the respondents scored above the mean (1.28821± 0.247) i.e., they have high perception of the barriers of PMTCT of HIV. The level of education of the mothers has statistically significant association with the perceived barrier to PMTCT of HIV.

148(54.6%) of the respondents scored above the mean score (1.509± 0.368). i.e., they have higher perception of the benefit of PMTCT of HIV but still significant percentage i.e., 123(45.4%) scored below the mean score, which means they have lower perception of the benefit. Occupation, parity and level of educational status have statistically significant association with the perception of the benefits of PMTCT of HIV.

Two hundred fifty eight (95.2%) of the ANC attendees knew what voluntary counseling and testing (VCT) mean,86.2% of the attendee have the opinion that every mother should have VCT to prevent MTCT. This is similar to the study finding done in Addis Ababa town (4).

86.2% of the ANC attendee agreed that every pregnant mother shall take VCT for PMTCT. Only 0.8% agreed that pregnant mothers' shalln't undertake VCT. ANC attendees in the age group of 21-30(57%), had the attitude that every mother should take VCT for PMTCT. Majority of the ANC attendee (91.5%) have the opinion that mothers need to have HIV counseling and testing of HIV before they breast feed. Only 3.8% had the opinion that

mothers needs to have VCT before breast feeding if she suspects herself and 4.6% said mothers should breast feed whether they are tested of not. This result is better than the results of the study done in Tikur Anbessa and Zewditu referal hospitals (4) 12 years ago, which shows there is an increase in mothers' opinion.

Only less than half of the mothers (46.5%) were willing for VCT at the time of the interview. 145(53.5%) of the ANC attendants either are not willing or couldn't decide to undertake VCT at the time of the interview.

Mothers with low perception of their susceptibility to HIV infection despite the high perception on its seriousness of the transmission to the baby and Mothers with relatively perception of the benefits of PMTCT and high perception of the barriers showed less willingness to undergo VCT for PMTCT. Though there are no similar studies done on the same topic, a study done in Butajira town to see the perception of students towards VCT using HBM showed that high perceived susceptibility and high perceived barriers were associated with low willingness to undergo VCT. On the other hand, students with high perceived benefits revealed better willingness to undergo VCT.

Compared to the conceptual framework used for this study in which the perceived susceptibility and seriousness leading to cue to action if there is high perception of benefits barriers, the study showed that there are relatively low perception of risks of HIV infection, high perception of seriousness of MTCT to the baby and barrier to PMTCT and relatively low perception on the benefits of PMTCT of HIV which led them to the less willingness to the use of the PMTCT service utilization. In a study done in Malawi, the perception of

barriers in terms of costs of PMTCT,inaccessibility due to stigma, fear of husbands were found as factors that affect the utilization of PMTCT services(25).

8. Strength and Limitations of the study

8.1. Strengths

1. This is the only study done to assess ANC attendants' perception towards the PMTCT of HIV using health belief model.

2. The study contained details of knowledge on MTCT & PMTCT and also the perceived susceptibility, seriousness, benefits and barriers to assess the mothers' perception towards PMTCT of HIV.

3. It was done in the context of rural and growing town so that the study can help as reference to see the trend in the growing towns using similar models

4. The data was collected by professional nurses and supervisors in health facilities and biases were minimized as much as possible.

5. All steps were maintained including data cleaning and completeness before analysis.

8.2. Limitations

1. The study was done at the facility level and lacks the representation to the community.

2. There were no specific studies conducted using behavioral models on PMTCT and there was a limitation of reference for it.

3. The sample size is relatively small compared to the study done in similar studies on KAP of PMTCT of HIV.

9. Conclusion

The government of Ethiopia and other stakeholders are trying to establish PMTCT programme in the existing health structures in order to reduce Mother to Child Transmission of HIV. This study has also shown that almost all the study participants have heard about HIV and AIDS and most of them knew that it can be transmitted from infected Mother to her baby. All mentioned at least one period of HIV transmission but only few of them mentioned all periods of transmission in which mother to child transmission occurs. Only one fourth of them know one or more factor that increase the risk of MTCT of HIV.

MTCT of HIV is known to the majority of the ANC attendants and primary prevention of the mother was also cited as the main way of preventing the MTCT of HIV.

Most of the attendants do have relatively low perception of susceptibility to HIV infection, high perception of seriousness of the MTCT of HIV, low perception of benefits of PMTCT of HIV and high level of perception of barriers to PMTCT of HIV.

VCT was also known by almost all of them and the majority of the ANC attendants have the opinion that mothers need to have HIV counseling and testing of HIV before they breast feed but majority of the mothers didn't seem to be willing for VCT.

The relatively low level of their perception on their susceptibility to HIV infection, low perception on the benefit and high perception on the barriers are associated with the relatively low level of readiness for VCT despite the high percentage of favorable attitude towards VCT and PMTCT

10. Recommendations

1. The general awareness of the ANC attendants on the presence of HIV and AIDS is very high but when it comes to prevention there is still gap observed in all modes of transmission. This indicates that there is a need to exert strong effort in this area.
2. Significant percentage of the mothers doesn't know most of the risk factors that affect the transmission of HIV from pregnant mothers to her baby and this necessitates further awareness raising work for ANC attending mothers and mothers in reproductive age group in the community.
3. The perceived susceptibility to HIV infection of the ANC attendants is relatively low. There is a high level perceived barrier especially in the factors related to role of males, PMTCT service inaccessibility and in-terms of cost. There is a also relatively low perception on the benefit of PMTCT of HIV by mothers. These affects the utilization of PMTCT services by mothers. Therefore, mechanisms to increase the knowledge of mothers to help them better understand the risk of transmission of HIV and the seriousness of the MTCT should be designed. There is a need a need to increase and sustain mothers' perception of the seriousness of MTCT to increase the service uptake.
4. There is a high perception on the barriers to PMTCT of HIV. Efforts shall be made also at the community level to enhance the involvement of males. There is a need to establish father to father support groups in order to promote male involvement and PMTCT support by males.
5. As mentioned by most mothers, PMTCT services shall be integrated with ANC services and the counseling services need to be strong.

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Annex 1. CONSENT FORM ENGLISH

INTRODUCTION - Greetings, My name is ……..I am a student of MPH in Addis Continental School of Public Health in Addis Ababa. I am interviewing mothers in order to find out their knowledge and attitudes towards mother to child transmission of HIV and barriers to its prevention. Therefore your genuine participation to the questions prepared is highly appreciated.

CONFIDENTIALITY &CONSENT - I am going to ask you very personal questions that some people find difficult to answer and your answer is kept completely confidential. Your name will not be written on this form. Moreover, you are not obliged to answer any question that you don't want to answer. However you will be greatly appreciated in responding to these questions for it will help us to know mother's status of knowledge and their attitudes regarding MTCT of HIV. Would you participate?

If yes, proceed.
If No, Thank and stop

Date of interview& time should be filled on each questionnaire

_____/_____/_____

Annex 2. QUESTIONNAIRES FOR MOTHERS ON MTCT OF HIV (English)

I. Identification

101. Q No. _____

102. Town _____

103. Kifle Ketema/Kebele _____ _

II. Socio-demographic Variables

201. Mothers' age (yrs) __

202. Marital status

1. Married 2. Single

3. Divorced 4. Widowed

203. Religion

1. Christian 2. Muslem Other (Specify)_____

204. Ethnicity

1. Amhara 2. Oromo 3. Gurage 4. Tigre 5. Other (Specify

205. Educational Status

1. No Formal Education 2.Primary (Grade 1-6)

3. Secondary (Grade 7-12) 4. Post Secondary (Grade 12+)

206. Occupation

1. House wife 2. Government employed

3. Private Employed 4. Merchant 5.Other (specify)_____

207. Household monthly income

1. Less than 250 birr per month 2. 250-500 eth birr per month

3. 500-1000 birr per month 4. More than 1000 birr per month

208. How many children do you have (specify in No.) _____

III - Knowledge about HIV

301. Have you heard of the disease" HIV/AIDS?

1. Yes 2. No

302. Please mention all the ways you believe a person could get HIV

1. Sexual intercourse with multiple partners
2. Sharing needles and sharp objects
3. Transfusion with infected blood
4. During pregnancy and childbirth
5. Through breast milk
6.Casual day-to-day contact
7. Others (specify) _____

IV. Knowledge about MTCT of HIV

401. Do you know that HIV is transmitted from mother to child?

1. Yes 2. No

402. If the answer to Q 401 is yes, what is the chance of transmission?

1. All infants of HIV infected mothers will have HIV
2. Majority (50-100%) of infants of HI V infected mothers will have HIV
3. Few (10-50%) of the infants of HI V infected mothers will have HIV
4. None of the infants of HI V infected mothers will have HIV

403. Do you know the range of percentage of MTCT of HIV?

1. Yes_____% 2. No

404. When do you think is HIV transmitted from a mother to her baby?

1. During pregnancy only
2. During labor only
3. During Breast Feeding only
4. All of the above (during pregnancy, labor and breast feeding)

405. When do you think is the highest rate of transmission?

1. During pregnancy only
2. During labor only
3. During Breast Feeding only
4. All of the above (during pregnancy, labor and breast feeding)

406. Do you know the risks for the high percentage of transmission?

1. Prolonged labor
2. Preterm labor
3. If a mother acquire HIV before pregnancy
4. If a mother acquire HIV after pregnancy or breast-feeding
5. If a mother has advanced disease during pregnancy

407. How susceptible are you to HIV infection?

1. Highly Susceptible 2. Moderately susceptible
3. Little Susceptible 4. Not at all

V- Knowledge about Prevention of Mother to Child Transmission (PMTCT) of HIV

Question	Statement	Respondents' Perceptions About PMTCT					
		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Agree
501	Small chance of transmitting HIV to baby in pregnancy						

502	MTCT is a serious and threatening issue to the baby						
503	You aren't more susceptible than a those who deliver at home						
504	PMTCT service is expensive ,inaccessible and unknown						
505.	Husbands have negative influence on the uptake of PMTCT						
506	Know the basic things of PMTCT						
507	Know someone whose baby is prevented by PMTCT service						
508	Read or learned about MTCT in the last 6 months						
509	Felt well educated before coming to ANC						
510	The health center provided you with adequate information about PMTCT/MTCT						
511	it is possible to prevent MTCT of HIV?						
512	it is beneficial to the baby to have PMTCT services to prevent Mother to Child Transmission of HIV in ANC						

513. Mention some of the preventive methods of MTCT of HIV?

1. I do not know

2. Protecting the mother from acquisition of HIV / AIDS

3. If anti-retroviral given during pregnancy

4. Elective caesarean delivery

5. Abstinence of breast-feeding

VI. Attitude Questions towards PMTCT

601. Do you have the confidence that in using the PMTCT service?

1. Yes 2. No

602. What is your opinion about Voluntary counseling and testing?

1. I think every mother should be tested to prevent MTCT of HIV"

2. If a mother suspects her self of having the disease she can decide to be tested to prevent transmission to her baby

3. I think being tested or not does not make a difference on MTCT of HIV

4. Mothers should not be test

5. No response

603. Do you want to have Voluntary counseling on HIV testing?

1. Yes, I would like to, 603a. Why? _____

2. No I do not want , 603b. Why not? _____

3. I cannot decide now

604. What is your opinion about breast-feeding in the face of the risk of HIV transmission?

1. Mothers should be tested before deciding to breast feed

2.If a mother suspects her self of having the disease she should be tested before breast-feeding

3. Mothers must breast feed whether tested or not

4. It is better to abstain breast-feeding whether tested or not

605. Would you like to be counseled on HIV testing before breastfeeding your baby?

1. I want to be counseled on HIV testing before I breast feed

2. I will breast feed whether I am counseled or not

3. No response

Annex 3. CONSENT FORM AMHARIC

በሆሳ ና ጠና ጣብያ የርግዝና ክትትል ለሚያደርጉ እናቶች ስለ ኤድስ ከእናት ወደ ልጅ መተላለፊያ መንገዶችና መተላለፊያውን ማስወገጃ በሚመለከት ለማጥናት ለተዘጋጀ መጠይቅ የቀረበ ፈቃደኝነት መጠየቂያ

መግቢያ፣

ስላምታ: እኔ ……..መረጃውን የምሰበስበው በአዲስ ኮንትነን ል የማሕበረሰብ ጢና የድህረ ምረቃ ተማሪ ነኝ፡፡ በዚህ ጥናት ውስጥ ጢና ጣብያ የርግዝና ክትትል ለሚያደርጉ እናቶች ስለ ኤድስ ከእናት ወደ ልጅ መተላለፊያ ዘዴዎች ያላቸውን እውቀትና ይህን ለመከላከል የሚሰጡትን ሃሳቦች ለማወቅ በሚከተለው መጠይቅ መሰረት ለመጠየቅ እፈልጋለሁ፣ ስለዚህ የእርስዎን የቀና/ እውነተኛ ትብብር በትህትና እጠይቃለሁ፡፡

ፈቃደኝነት ስለመጠየቅና ስለሰጡት መረጃ ሚስጥር መጠበቅ፡፡

እኔ አሁን አንዳንድ ስዎች ለመመለስ ስለሚቸገሩበት ፣ በግል ሕይወትዎ ያለዎትን ግንዛቤና ሃሳቦች የሚያካትቱ ጥያቄዎችን ልጠይቅዎት ነው፡፡ የሚሰጡን መረጃ እስከ መጨረሻው ድረስ በሚስጥር የሚያዝ መሆኑን ላረጋግጥልዎት እወዳለሁ፡፡ ስምዎ በዚህ ቅጽ ላይ አይሰፍርም፡፡ በቃለ መጠይቁ ለመሳተፍ ወይንም ተጨማሪ ማብራሪያ ለመስጠት ካልፈለጉ አይገደዱም፡፡ ይሁንና እርስዎ ለነኚህ ጥየቄዎች በተቃና መልኩ ምላሽ ቢሰጡን ለሚደረገው ጥናት ከፍተኛ አስተዋፅኦ ያደርጋሉ፡፡ ይህን መጠይቅ ለመመለስ ይተባበሩናል?

ምላሹ አዎ ከሆነ ይቀጥሉ፣

ምላሱ አልተባበርም ከሆነ በማመስገን ያቁሙ

መጠይቁ የተሞላበት ቀንና ሰዓት ___/_____/_____

Annex 4: መጠይቅ፣ (Amharic)

ክፍል አንድ፣ መለያ

101. ከተማ _____

102. ክፍለ ከተማ/ቀበለ _____

ክፍል ሁለት ፡ አጠቃላይ መረጃ

201. እድሜ ……..

202. የጋብቻ ሁኔታ

1. ያገቡ 2. ያላገቡ 3. የፈቱ 4. ባላቸው የሞተ

203. በአሁኑ ጊዜ የየትኛው ሃይማኖት ተከታይ ነዎት ?

1. ክርስትና 2. እስልምና 3. ሌሎች (ይጠቀስ) _____

204. ብሔረሰብዎ ምንድን ነው ?

1. አማራ 2. ኦሮሞ 3. ጉራጌ 4. ትግሬ 5. ሌሎች

205. የትምህርት ደረጃ

1. ያልተማሩ 2. ከ1ኛ እስከ 6ኛ ክፍል

3. ከ7ኛ እስከ 12ኛ ክፍል 4. ከ12ኛ እስከ በላይ

206. ስራዎ ምንድን ነው?

1. የቤት እመቤት 3. የመንግስት ተቀጠሪ

2. የግል ተቀጣሪ 4. ነጋዴ 5. ሌሎች _____

207. የቤተሰብዎ ገቢ. ምን ያህል ይሆናል? (መጨረሻ ይጠየቅ)

1. ከ1250 ብር በታች በወር 2. ከ250 እስከ 500 ብር በወር

3. ከ500 እስከ 1000 ብር በወር 4. ከ1000 ብር በላይ በወር

208. ስንት ልጆች አለዎት? (በቁጥር ይጠቀስ)

ክፍል ሶስት ኤድስን በተመለከተ ስላለ እውቀት

301. ኤች አይ ቪ ወይም ኤድስ ስለተባለው በሽታ ሰምተው ያውቃሉ?

1. አዎ 2. አላውቅም

302. በእርስዎ እምነት አንድ ሰው ኤች አይ ቪ እንዴት ሊተላለፍበት ይችላል?

1.ከብዙ ሰዎች ጋር ልቅ የሆነ የግብረ ሥጋ ግንኙነት ማድረግ፣

2.መርፌና ስለት ያላቸውን ዕቃዎች በጋራ መጠቀም

3.የተበከለ ደም ለሰው ከተሰጠ

4.በእርግዝናና በወሊድ ወቅት

5.በእናት ጡት ወተት

6.በእለት እለት ከሰዎች ጋር ባለ ግኙኝነቶች ለምሳሌ፣ መጨባበጥ፣ አብሮ መብላት መጠጣት ወዘተ.

7.ሌሎች _____

ክፍል 4 : ኤች አይ ቪ ከእናት ወደ ልጅ ስለመተላለፍ ያለውን ግንዛቤ በሚመለከት የቀረቡ ጥያቄዎች፡፡

401. ኤች አይ ቪ ከእናት ወደ ልጅ እንደሚተላለፍ ያውቃሉ

1. አዎ 2. አላውቅም

402. ለጥያቄ 401 መልሱ ሰዎ ከሆነ የመተላፍ እድሉ ምን ያህል ይመስልዎታል?

1. ኤች አይ ቪ የተያዘች እናት ለምትወልዳቸው ልጆች ሁሉ ታስተላልፋለች፡፡

2. በኤች አይ ቪ የተያዘች እናት ለምትወልዳቸው ልጆች ከ50 እስከ 100 ፐርሰንት ታስተላልፋለች፡፡

3.በ ኤች አይ ቪ የተያዘች እናት ለምትወልዳቸው ልጆች ከ1 እስከ 50 ፐርሰንት ታስተላልፋለች፡፡

4. በኤች አይ ቪ የተያች እናት ለምትወልዳቸው ልጆች በሙሉ አታስተላልፍም፡፡

403. ኤች አይ ቪ ከእናት ወደ ልጅ የመተላለፍ እድሉ በፐርሰንት ምን ያህል እንደሆነ ያውቃሉ፡፡

1. በእርግዝና ወቅት 2. በምጥ ወቅት 3. በጡት ማጥባት ወቅት

4. በሁሉም 5. አንድና ሁለት 6. አንድና ሶስት 7. ሁለትና ሶስት

405. ከላይ ከተጠቀሱት በአብዛኛው በየትኛው ወቅት ይመስልዎታል፣ ኤች አይ ቪ ከእናት ወደ ልጅ የሚተላለፈው?

(ከላይ ከተጠቀሱት ቁጥሮች ይምረጡ)

406. ኤች አይ ቪ ከእናት ወደ ልጅ እንዲተላለፍ የሚያባብሱት ነገሮች ያውቃሉ? (መጠይቅ ሞይው ምርጫዎቹን አይጥቀስ)

0. አላውቅም

1. የምጥ መርዘም

2. ወር ሳይገባ የሚመጣ ምጥ

3. እናት ከማርገዝዋ በፊት በኤድስ ተይዛ ከነበረ

4. እናት በእርግዝና ወይም በጡት ማጥባት ወቅት በኤድስ ከተያዘች

5. እናት የተገለጠ የበሽታው ምልክቶች በእርግዝና ወቅት ከነበራት

407. ለኤች አይ ቪ ምን ያህል ተጋላጭነት ኖት?

1. በከፍተኛ ደረጃ 2. መከከለኛ ደረጃ 3. ዝቅተኛ ደረጃ

4. አይደለሁም

ክፍለ አምስት ፣ የኤድስ በሽታ ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ ዘዴዎችን የተመለከተ መጠይቅ፣

ጥ.ቁጥር	ጥያቄ	Respondents' Perceptions About PMTCT				
		በጣም፡አልስማማም	አልስማማም	አላውቅም	፡አስማማለው	በጣም ፡አስማማለው
501	ከእናት ወደ ልጅ ብዙም አይተላለፍም					
502	ከእናት ወደ ልጅ መተላለፍ ለፅንሱ በጣም አስበጊ ነው					
503	ከንቺ ይልቅ በቢት የሚወልዱ በጣም ተጋላጭ ናቸው					
504	ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ ውድ፡ በቀላሉ የማይገኝ ና ብዙ የማይ ውቅ ነው					
505.	የባሎች ሚና ብዙ ጊዘ ተቃውሞ ነው					
506	ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ አውቃለው					
507	ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ በመውሰድ ሳይያዝ የተወለደ ህፃን አውቃለው					
508	ስለ ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ ባለፈው ፅወር አንብቢያለው					
509	ወደ ርግዝና ክትትል ከመምጣቲ በፊት ስለ ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ በደንብ አውቃለው፡፡					
510	የጢና ጣቢያው በደንብ አስተምረውኛል					
511	ከእናት ወደ ልጅ እንዳይተላለፍ መከላከል ይቻላል					
512	ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ ርግዝና ክትትል ጊዚ ማጣመር በጣም ጠቃሚ ነው					

513. የኤች አይ ቪ ከእናት ወደ ልጅ እንዳይተላለፍ ከመካከያ መንገዶች ጥቂቶቹን ይግለጹ

0. አላውቅም

1. እናቲቱ እራሷን እንዳይዛት መከላከል፡፡

2. በእርግዝና ወቅት የኤድስ መከላከያ መድሃኒቶች መስጠት

3. በኦፕሬሽን (ሲዘርያን ሴክሽን) ማዋለድ

4. ጡት አለማጥባት

ክፍል ስድስት ፣ በፈቃደኝነት ላይ ስለተመሰረተ የኤች አይ ቪ ምርመራና ስለጡት ማጥባት የእናቶችን አመለካከት የሚመለከት መጠይቅ፣

601. በፈቃደኝነት ላይ የተመሰረተ የኤች አይ ቪ ምርመራ ምን እንደሆነ ያውቃሉ?

1. አዎ አውቃለሁ 2. አይ አላውቅም

602. በፈቃደኝነት ላይ ስለተመሰረት የኤድስ ምርመራ ያለዎትን አመለካከት ይግለጡልኝ?

1.አንድ እናት ኤድስ ወደ ልጇ እንዳታስታላልፍ የኤድስ ምርመራ ማድረግ አለበት

2.አንድ እናት በሽታው ይኖርብኛል ብላ ከተጠራጠረች ወደ ልጇ እንዳታስተላልፍ ምርመራውን ማድረግ አለባት፣

3.አንድ እናት የኤድስ ምርመራ ማድረጓም ሆነ አለማድረጓ በሽታውን ወደ ልጇ ማስታላለፏ ላይ ለውጥ አያመጣም፡፡

4.እናቶች የኤድስ ምርመራ ማድረግ የለባቸውም፡፡

5.መልሰ ለመስጠት እቸገራለሁ/ አልፈልግም፡፡

603. ስለ ኤድስ ምርመራ የምክር አገልግሎት ማግኘት ይፈልጋሉ፡፡

1. አዎን እፈልጋለሁ 603 ሀ ለምን ?_____

2. አይ አልፈልግም 603 ለ ለምን ?_____

3. አሁን መወሰን አልችልም

604. የእናት ጡት ወተት ለኤድስ መተላለፊያ መንገድ አንዱ ነው፡፡ ታዲያ ጡት ስለማጥባት የእርስዎ አመለካከት ምን ይሆናል?

1. አንዲት እናት ጡት ለማጥባት ከመወሰኗ በፊት የኤድስ ምርመራ ማድረግ አለባት፣

2. አንዲት እናት በሽታው ይኖርብኛል ብላ ከተጠራጠረች ብቻ ከማጥባቷ በፊት ምርመራውን ምድረግ አለባት፡፡

3. አንዲት እናት ምርመራውን ብታደርግም ባታደረግም ጡት ማጥባት አለባት፣

4. አንዲት እናት ብትመረመርም ባትመረመርም ጡት ማጥባት የለባትም፡፡

605. እርስዎ ጡት ከማጥባትዎ በፊት በፈቃደኝነት ላይ የተመሰረተ የምክር አገልግሎት ይፈልጋሉ?

1. አዎን ከማጥባቴ በፊት የምክር አገልግሎት እፈልጋለሁ፡፡

2. ምክሩን ባደርግም ባላደርግም ጡት ማጥባት እፈልጋለሁ፡፡

3. መልስ መስጠት አልፈልግም ፣

አመሰግናለሁ፡፡

Declaration

I, the undersigned declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health. I also declare that it has never been presented in this or any other university and that all resources and materials used in the thesis have been duly acknowledged.

Student Name: _____

Signature: _____

Place of submission: _____

Date of submission: _____

This thesis has been submitted for examination with my approval as a university advisor.

Advisor Name: _____

Signature: _____

Date of submission_____